**Northeast College Preparatory School Lesson Plan**

**Teacher(s): Flanagan/Wilson Grade: 9**

**Subject(s): Integrated Algebra Date of delivery: 2/25 – 3/01**

**Topic: Solving Systems of Linear Inequalities**

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| 1. **Common Core Learning Standards Addressed**:
* **8.EE: Analyze and solve linear equations and pairs of simultaneous linear equations**
* **A – REI.5: Reasoning with Equations and Inequalities: Solving Systems**
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| 1. **Learning Target(s): (What will the students know and be able to do as a result of this lesson?)**
* Students will graph linear equations and inequalities in one variable
* Students will solve and find solution sets for linear inequalities
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| 1. **Essential Question(s)/Guiding Question(s):**
* What similarities and differences do you see in solving systems of linear equations verses solving systems of linear inequalities?
* How do you find a solution set for a system of linear inequalities?
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| 1. **Higher Level Thinking Questions to be used during the lesson:**
* Students will solve real world problems involving graphing and solving systems of linear inequalities (students will have to create their own linear inequalities from the info in the word problems and graph the solution set to solve each problem)
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| 1. **Bridge/Connections/Hook: (review of previous days lesson)**
* See Guided Notes (bridge activities included on each days lessons)
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| 1. **Materials/Resources/Technology Integration:**
* Smartboard
* Graphing calculators
* See teacher website for handouts, assignments and guided notes
* Colored pencils
* Coordinate grid worksheets
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| 1. **Mini Lesson/Process/Procedure:**

**DAY 1 Graphing Linear Inequalities*** **Students will complete BW – solve a system of linear equations**
* **Guided notes provided for introducing how to graph a linear inequality**
* **Classwork problems**
* **Regents prep questions**
* **Closure – answer SLO**

**DAY 2 Solving Systems of Linear Inequalities*** **Students will complete BW – graph a linear inequality**
* **Work Period Activity – graphing a linear inequality and finding points that are on the line and NOT on the line. Students will also shade according to the points they find in the table provided.**

**DAY 3 Solving Systems of Linear Inequalities*** **Students will complete BW – graphing a system of linear inequalities**
* **Students will be placed in pairs/groups to complete the work period activity**
* **Regents Prep Questions**

**Day 4 Review Stations Activity*** **Students will be placed in groups of three and determine which method of solving systems of linear equations works well with the problem given**
* **Students will review a problem solving systems of linear inequalities**

**Day 5 Quiz****Topics will include:*** **Solving systems of Linear Equations using Substitution, Elimination and Graphing Methods**
* **Solving systems of Linear Inequalities**
* **Spiraled Review from previous topics**
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| 1. **Work Time/Activities/Tasks: (What learning experiences will students engage in? How will you use these learning experiences or their student products as formative assessment opportunities?)**
* Students will engage in various group/pair activities throughout these lessons. Students will choose which method is conducive to solving various systems of equations. (they will choose between elimination, graphing and substitution) Students will also be working together to solve systems of linear inequalities. Student work will be evaluated and put up around the classroom as “model examples.”
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| 1. **Access for All: (How will you ensure that all students have access to and are able to engage appropriately in this lesson? Consider all aspects of student diversity.)**
* **Flexible grouping**: students will be grouped heterogeneously so that lower students can rely on peers for assistance and support
* **Visual Learners:** students will be given colored pencils when shading the solution set for solving systems of linear inequalities. When the 2 colors “overlap” students will be able to visually see where the solution set is located.
* Students that have difficulty shading “above” or “below” the line will have the opportunity to be able to use “test points” to be able to determine where to shade the solution for the linear inequality
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| 1. **Homework/Extensions/Enrichment:**
* **See teacher website**
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| 1. **Formative Assessment Criteria for Success: (How will you and your students know if they have successfully met the outcomes? What specific criteria will be met in a successful product/process? What does success on this lesson’s outcomes look like?)**
* Questioning: teacher will call on students to answer grade level questions
* teacher will collect and evaluate student products
* teacher will circulate the room during stations activities
* student will work to demonstrate mastery on their quiz on Friday
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| 1. **What adjustments will be made for students that do not meet the Criteria for Success?**
* Students will be pulled during lunch time for extra help/reinforcement
* Students will be referred to RTI that are struggling
* Material will be reinforced during after school math modules
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| 1. **How does this lesson reflect academic rigor?**
* Questions are selected to meet regents’ level. Questions are aligned using bloom’s taxonomy to require higher order thinking to answer
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| 1. **How does this lesson cognitively engage students?**
* Students will have to create a Venn Diagram based on similarities and differences in graphing linear equations versus graphing linear inequalities
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| 1. **How does this lesson engage students in collaborative learning and enhance their collaborative learning skills?**
* Students are collaboratively solving problems during group work and stations.
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